Automated Commercial Environment—Requirements Recommendation

Date:	September 5, 2001
Number:	ITD-HL-008
Requestor:	ITDS Sub-Committee
Customs Co-Chair:	Allison Suliveras
Trade Co-Chair:	Tom Anastasi and Sandra Scott

Requirement

ITDS Systems Operating Requirements and Roll-out

1. Overview:
ITDS, should be seen as a shared, multi tenant gateway, a Single Point of Integration and migration for the ACE solution. This view of ITDS as a component of the ACE applications architecture is consistent with US Custom's Enterprise Architecture (EA) design, is fully compliant with the objectives of Custom's Investment Management Process (IMP) and supports the overall objectives of Custom's Office of Information Technology (OIT). Please see enclosed the ITDS/ACE schematics. This schematic is largely different from but inspired in part by figure 5-1 on page 5-12 of the "Project Summary for the International Trade Data System dated September 3, 1998.

ITDS application delivers on Custom's EA requirement by providing a complete unified view of the information necessary for the message management services needed to support access to ACE and the other systems operated by the various PGAs. These data requirements are in general similar, but larger for ITDS than for ACE. Once the common information model is incorporated with appropriate levels of abstraction and the data object models are built, the resulting assets will allow customs and the PGAs to rapidly build and deliver new applications. At the same time they will be able to rationally maintain existing mission critical applications, until they can be retired or replaced. Customs can use and reuse the same core data object and business object models to meet all of the requirements for ACE and ITDS. The other PGAs can use the object and data models and the applications infrastructure to extend their ability to integrate with and collaborate around the information contained in ITDS and ACE.

ITDS is an integral part of the ACE network of applications and a core component part of Custom's EA. It is Custom's "Single Point of Integration". ITDS should be viewed as the platform that operates the common API, supporting integration and the rapid development of interfaces between the trade, the PGAs and ACE. At the same time the assets of ITDS, can serve as the migration platform for Custom's legacy applications and can act as the single point of internal integration for the legacy applications as they are migrated to the new enterprise architecture. This is shown in the first schematic.

The second schematic shows IBM "the prime" playing the role as the operator of the data object model and the business object models repository. This object repository/management role is essential to drive the larger benefits and the appropriate extensibility and efficiency of the Enterprise Architecture.

Business Need

The Trade will Interface with ACE and with the PGAs, through ITDS in three ways:

1. With an "ASPI API" will exploit common applications based data infrastructure and support digital asynchronous and synchronous integration using XML and/ or other protocols such as EDI, etc.

2. Through a browser based interface or "Trade Client Transactional Control Center" with a client

management application that allows the user to manage any type of business, submit information and manage his own client accounts with Customs and/or the other PGA's.

3. Exploiting the common data objects and business models.

The PGA's will interface with ACE in three ways:

1. Using the Government Agency Transactional and Client Control Center, which is a version of the browser based interface application, specifically configured for the present and future PGAs.

2. Using the same ASPI multi protocol API for synchronous and asynchronous integration.

3. Exploiting the common data object and business models.

Technical Need

2. Hardware, System Services, Network Infrastructure:
ITDS should be hosted as a special purpose multi protocol, message management and integration application. It should also have its own logical, core hardware, storage devices and network equipment. ITDS can start by sharing and continue to share on the margin, the sites, equipment and the networks of Customs and other PGA's. In the long term this sharing will create additional fault tolerance and redundancy.

The hardware, network infrastructure and systems services should resemble a robust hosted configuration. The model, which follows, identifies but does not scale the components. The hosting site can be created at one of Custom's existing facilities and/or at an independent site offered by the Prime and/or one of the other agencies.

Hardware and System Level Software Configuration:

The following configuration will need to updated and appropriately scaled, both horizontally and vertically, to meet the transactional requirements defined with the current specification since they reflect different requirements than those described in the existing ITDS technical specification document dated March 1998, and the ACE technical specification dated October 1999.

Software:

OS, DB, and Applications Servers

Operating Systems: Linux, Unix, AIX, Solaris

Data Bases: DB2 configured to manage distributed data networking requirements and federation requirements.
Applications Servers: Webshpere with MQ Series Integration

Hardware:

Pro Forma Hardware Configuration: Not Scaled

2+ Load Balancers

2+ Cisco 2924 XL Switches

2+ Sun "Solaris" "Apache Web Server"

2+ Cisco 2924XL Switches

2+ IBM Gigabit Ethernet Switches

2+ IBM Wide Node "Linux/AIX" Webshpere "Application Servers"

2+ IBM Wide Node "Data Base Servers" with DB2 configured to support federated and distributed data requirements.

IBM Designed Enterprise Networked Storage Facility "TBD"

2+ IBM Wide Note Administration Servers

High Availability Clustering Surrounding the DB2 Servers with X?GB DASD on Distributed Data Network to provide sufficient capacity and redundancy.

2+ Nokia Firewalls

2+ Cisco 2514 Routers

3X Redundant Network And Dial In Communication Connections

2x Power Redundancy

Double Site Build Out to Provide Disaster Recovery Capability.

3. Roll Out:

ACE/ITDS must deliver a universal browser based Agency Control center application that will allow all of the agencies to access ITDS and through ITDS communicate with ACE.

The first PGA's will be encouraged to use the browser version of the Agency Control Center application to increase response times during that period when those Agencies are working on upgrading or integrating their own systems.

ACE/ITDS must publish the ASPI API and make the data and object models available to support further end-to-end integration between the Agencies and ITDS.

Each agency can continue to use the browser based Agency Control Center Applications. Further, they can request that a clone of the ACE Single Point of Integration "ASP" be installed behind their own firewalls. The agencies can then use this version of the ASPI as their own internal/external message integration point. This will enable each agency to integrate versus the common information model and to reuse data and business components.

This ASPI clone will automatically integrate with the ACE/ITDS as central Single Point of Integration and allow for the creation of private but partially federated agency databases. This will allow for the federation of private Agency data to be extended bask to the Census Data Network when and where required.

Contact:
John M. Rogers
EcoNovo Ltd
New Jersey.
e-mail: john.rogers@econovo.com
Phone# +1 201 567 1500
Cell# +1 201 724 3812

Benefits

General benefits that will accrue to users and stakeholders include the following:

- Reduced costs for both the Private and Government sectors
- Improved enforcement and compliance of Government Agency requirements
- More rapid and accurate G2G and B2G transaction completion

- Elimination of many of the problems with the current trade processing environment

Flexibility in the development of transactional applications to meet the needs of the Private and Government sectors.

Risks

Risks associated with the implementation of the proposed system are as follows:

- Failure to adequately identify and address the needs of all users and stakeholders
- Failure to implement advanced development technologies and methodologies to implement US Government quality standards and guidelines
- Any initiative to separate the systems solutions for ACE and ITDS

Systems security and performance aspects are contained in separate documents

Related Subcommittees

Priority: **Critical** ☐ **High** ☐ **Medium** ☐ **Low** ☐

Customs Use Only

Approved ☐ Not Approved ☐ Further Evaluation Required ☐